places at the vulnerable lines and even after that, instructions were given to go for cleaning quickly and we have instructed particularly in Haryana, Uttar Pradesh and nearby Delhi areas that this will have to be done and instructions have been given.

SHRIMATI SHOBHANA BHARTIA: My second supplementary is that grid disturbances also happen largely because of some States or utilities drawing more power than the allocated share. Sir, overall we have a bit of power shortage and the Ninth and the Tenth Plans have not fulfilled the commitments that they were supposed to. Drawing on the experiences of these two Plans, would the hon. Minister like to tell us what were the major reasons why we could not augment power as we were supposed to and going forward, Sir, for the Eleventh Plan what measures is the Government planning to take up so that the targets that they have put for themselves are realistic and are met.

SHRI SUSHILKUMAR SHINDE: Sir, today, in the second question (No. 382) elaborate answers have been given. Considering the fact that less addition in installed capacity was there during the Eighth, Ninth and Tenth Plan periods, we have decided, in the Eleventh Plan, to install a capacity of 78,577 MW plus about 11,500 MW from captive generation. We have lost in all the three Plans; — the answer will be very lengthy — the Eighth, Ninth and Tenth Plans, so, we have done a capacity addition of 56,000 MW and in the Eleventh Plan, we are doing more than 83,000 MW. As on date, our installed capacity is 1,43,061 MW. This House will appreciate the way in which measures have been taken in the last two years. And, I am happy to inform this House that within these two years nearly 16,500 MW capacity has been added which was done never before in the history of the country.

MR. CHAIRMAN: Question Hour is over.

WRITTEN ANSWERS TO STARRED QUESTIONS

Cost for generation of solar energy

*381. SHRI RAJNITI PRASAD: Will the Minister of NEW AND RENEWABLE ENERGY be pleased to state:

(a) the cost per MW for generation of solar energy; and

(b) the steps Government is taking to make solar energy more cost effective?

THE MINISTER OF STATE IN THE MINISTRY OF POWER (SHRI JAIRAM RAMESH):(a) Solar energy can be harnessed through two routes namely; (i) solar photovoltaic for direct electricity generation and (ii) solar thermal for heating, cooling and power generation.

Solar photovoltaic cells convert light in to electricity. A number of solar photovoltaic cells are joined to make a solar photovoltaic (SPV) module. SPV modules and interface electronics **are** used in a solar photovoltaic power generating system to harness solar energy for electricity generation. Concentrating solar thermal collectors are used to convert solar energy in to steam, which in turn is used in conventional turbines for power generation.

The estimated capital cost of setting up a solar power plant is in the range of Rs. 16 crore to Rs. 20 crore per MW and the cost of generation is around Rs. 12 to Rs. 15 per unit, depending upon echnology, efficiency solar insolation etc.

(b) In order to make solar energy systems more cost effective, the Government has taken several steps which include (i) research and development to reduce the costs, improve the efficiency and performance of solar energy systems, (ii) incentives to manufacturers, commercial users and powers project developers; and (iii) subsidy or soft loans to encourage utilization of solar energy systems.

Power stations

†*382. SHRI JAI PARKASH AGGARWAL: Will the Minister of POWER be pleased to state:

a. the total number of power stations/sub-stations in the States, including Delhi;

b. the extent to which the capacity of power generation has increased during the last three years, year-wise and power station-wise;

c. whether Government proposes to increase the power generation capacity of these power stations; and

THE MINISTER OF POWER (SHRI SUSHILKUMAR SHINDE): (a) According to the information available with the Central Electricity Authority, the total number of power generating stations of the Utilities in the country as on 31st March, 2008 was 445, which includes 4 power generating stations located in Delhi.

Power sub-stations are.in the transmission and distribution segments, depending on the level of required voltage transformation and do not add to the capacity of power generation.

The enhancement in capacity of power generation projects is a continuous process and is achieved through addition of new generating capacity as well as Renovation, Modernisation, Uprating and Life Extension of operating plants whose performance declines with age. New capacity addition during 2005-06,2006-07 and 2007-08 was 3,488.28 MW, 7,074.80 MW and 9263 MW respectively. The year-wise and power station-wise details are given in the Statement-I. (See below) The State-wise and Power Station-wise details of projects in which increased generation capacity has been available by virtue of Uprating under the Renovation, Modernization and Uprating Scheme during the last three years are enclosed as Statement-II. (See below) Normally this exercise is restricted to restoring declining efficiency level of performance.

and (d) The enhancement in power generation capacity of existing and recently uprated generating units referred to in Statement-II is not envisaged during the Eleventh Plan. However, capacity addition of 78,577 MW is envisaged during the Eleventh Plan through new power plants, out of which projects aggregating 9,263 MW have been commissioned during 2007-08 and projects of 62,847 MW capacity are under construction under various power generation companies/Boards.

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† Original notice of the question was received in Hindi.